

# "A METHOD FOR MANUFACTURING BOILED GROUND BEEF VACUUM PACKED IN A POUCH-TYPE BAG"

## CLAIMS

1. A method for manufacturing boiled ground beef vacuum packed in a pouch-type bag, the manufacturing method being characterized by comprising the following stages:
  - A) provision of raw beef;
  - B) provision of inputs;
  - C) storage chamber;
  - 10 D) first grinding;
  - E) water treatment;
  - F) previous boiling;
  - G) second grinding;
  - H) mixing;
  - 15 I) primary packing;
  - J) sterilization;
  - K) cooling/ incubation;
  - L) provision of pouches (plastic/ cardboard);
  - N) primary packing room;
  - 20 M) secondary packing/ storage room.

2. The method according to claim 1, characterized in that the Provision of Raw Beef stage comprises the following:
 

the qualitative evaluation of the raw beef, by checking:

  - . provision of the beef packed in containers, duly wrapped in plastics;
  - 25 . date of validity and production (manufacture);
  - . fairly good conditions of the pouches;
  - . odor, color, appearance to exhibit fresh beef characteristics;

the temperature, pH and fat must be within the following standards:

  - . Temperature:

Safe Limits:  $-1^{\circ}\text{C} < T \leq 7^{\circ}\text{C}$ .

Critical Limit:  $T = -1$  and  $5,6^{\circ}\text{C} \leq T \leq 7^{\circ}\text{C}$ .

. pH:

Safe Limit:  $5.4 < \text{pH} \leq 5.9$

5 Critical Limit: pH: = 5.4 and pH = 6.0

. Fat

Fat content: 8% to 12%.

3. The method according to claim 1, characterized in that the Storage Chamber stage comprises the following:

- 10 . the environment is cooled between  $7^{\circ}\text{C}$  and  $10^{\circ}\text{C}$ ;  
 . before being submitted to the grinding process, the raw beef must be checked in a re-inspection site, wherein the temperature, pH and other relevant items are checked.

4. The method according to claim 1, characterized in that the First Grinding stage comprises the following:

- 15 . the beef is transferred to a grinding mill provided with a 1 inch diameter disc;  
 . the temperature of the environment must be in an interval between  $7^{\circ}\text{C}$  and  $10^{\circ}\text{C}$ .

5. The method according to claim 1, characterized in that the Water Treatment stage comprises the following:

- 20 . Source of water.  
 . Chlorine dispenser: a device provided with a peristaltic pump for the product with a 45 rpm engine actuated by an electronic board that controls the engine speed, a led indicating that the device is on and dispensing, a delay timer for  
 25 inputting the dosage within a period from 0 to 3 minutes, wherein the time regulated for the input of products before or after can be selected through a JUMP, shown on the board through adequate commands; the enclosures of the pumps are coated with special resins, thus providing high resistance to the action of chemicals, temperature, expansion and shocks, the rolls of which are

made of ultrahigh molecular weight PP and attached through bolts to stainless steel 340 supports.

. Filtering through a polishing filter: Polypropylene filter (50 microns filtering element);

- 5 . Chlorine removal: Gr activated carbon (Removal of chlorine through a carbon filter);

. Filtering through a polishing filter: Polypropylene filter (10 microns filtering element).

6. The method according to claim 1, characterized in that the Previous Boiling stage comprises the following:

. after the grinding, the process for feeding the cookers is continuous;  
 . the ground beef is submitted to a previous baking in treated water for a minimum period of time of 10 minutes at the water boiling temperature;  
 . the water boiling temperature (100°C) is repeatedly monitored every hour.

- 15 7. The method according to claim 1, characterized in that the Second grinding stage comprises the following:

. after the ground beef is boiled, it is submitted to a second grinding by using a 1/8 inch diameter disc.

8. The method according to claim 1, characterized in that the Mixing stage to understand that:

. In the mixer, the pre-boiled ground beef is mixed with all the ingredients, thus producing a mixture at a suitable time.

9. The method according to claim 1, characterized in that the Primary Packing stage comprises the following:

- 25 . before being put into the autoclave, the pouch is fed periodically at defined intervals into the product shaping section;

. the ground beef is packed into flexible pouch-type bags – a seal resistant to the sterilization processes.

10. The method according to claim 1, characterized in that the

Sterilization stage comprises the following:

- . a temperature/time recording device is used in conjunction with the temperature recording device;
- . the beef is submitted to a sterilization process in the autoclave for a period of
- 5 20 minutes at 121.5°C;
- . In the autoclave, a number of equipment is installed:

Mercury thermometer – checked daily and every 6 months versus a standard instrument tracked by the RBC;

- Pressure gauge – checked daily and every 6 months versus a standard
- 10 instrument tracked by the RBC;

Time/temperature meter - checked daily and every 6 months versus a standard instrument tracked by the RBC.

11. The method according to claim 1, characterized in that the Cooling/ Incubation stage comprises the following:

- 15 . the bags (pouches) must be cooled to 35°C rapidly in chlorinated water (5 ppm) so that they can retain sufficient heat to dry same;
- . after the cooling, one unit is collected every 1000 and incubated in a room the temperature of which is from 34°C to 38°C for a period of 10 days for the purpose of stimulating the growth of microorganisms that may be present
- 20 therein.

12. The method according to claim 1, characterized in that the Primary packing room stage comprises the following:

- . after the cooling period, the product is packed in flexible bags (pouches);
- . the pouches are vacuum closed. (the process control devices are checked
- 25 periodically or as required);
- . the room is kept at the ambient temperature.

13. The method according to claim 1, characterized in that the Secondary packing/ storage room stage comprises the following:

- . The products are packed into duly identified cardboard boxes, submitted to a

visual inspection of the pouch, tag and cleanness, the comments being duly recorded together with other pertinent details.